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SEQUENCE LISTING

<110> COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

<120> NOVEL GENETIC SEQUENCES ENCODING STEROID AND JUVENILE HORMONE
RECEPTOR POLYPEPTIDES AND INSECTICIDAL MODALITIES THEREFOR II

<130> p:\oper\mro\ecdysone2.pct

<140> International application No. PCT/AU00/XXXXX

<141> 2000-06-30

<150> US 09/346470

<151> 1999-07-01

<160> 42

<170> PatentIn Ver. 2.0

<210> 1

<211> 2274

<212> DNA

<213> Lucilia cuprina

<220>

<221> CDS

<222> (1)..(2271)

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atg tta gaa gaa tcc tcc tca gaa gta acc tcc tcc tca aat ggt ctg	96
Met Leu Glu Glu Ser Ser Ser Glu Val Thr Ser Ser Ser Asn Gly Leu	
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gtc ttg tca tcg gat ata aat atg tca cct tcc tcg ttg gat tca ccc	144
Val Leu Ser Ser Asp Ile Asn Met Ser Pro Ser Ser Leu Asp Ser Pro	
35 40 45	

gtt tat ggc gat cag gaa atg tgg ctg tgt aac gat tca gct tca tat	192
Val Tyr Gly Asp Gln Glu Met Trp Leu Cys Asn Asp Ser Ala Ser Tyr	
50 55 60	

aat aac agt cat cag cat agt gtt ata act tcg ctg cag ggc tgc acc	240
Asn Asn Ser His Gln His Ser Val Ile Thr Ser Leu Gln Gly Cys Thr	

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65	70	75	80	
tca tca ttg ccg gcc caa aca acc att ata cct ctg tca gct tta ccc				288
Ser Ser Leu Pro Ala Gln Thr Thr Ile Ile Pro Leu Ser Ala Leu Pro				
	85	90	95	
aat tcc aat aat gcc tcc ctg aat aat caa aat caa aat tat caa aat				336
Asn Ser Asn Asn Ala Ser Leu Asn Asn Gln Asn Gln Asn Tyr Gln Asn				
	100	105	110	
ggt aat tcc atg aat aca aat tta tcg gtt aac aca aat aac agt gtt				384
Gly Asn Ser Met Asn Thr Asn Leu Ser Val Asn Thr Asn Asn Ser Val				
	115	120	125	
gga gga ggt gga ggt ggt ggt ggt gta ccc ggt atg act tca ctc aat				432
Gly Gly Gly Gly Gly Gly Gly Gly Val Pro Gly Met Thr Ser Leu Asn				
	130	135	140	
ggt ctg ggt ggt ggt ggt ggc agt caa gtg aat aat cac aat cac agc				480
Gly Leu Gly Gly Gly Gly Gly Ser Gln Val Asn Asn His Asn His Ser				
	145	150	155	160
cac aat cat tta cac cac aac agc aac agt aat cac agt aat agc agt				528
His Asn His Leu His His Asn Ser Asn Ser Asn His Ser Asn Ser Ser				
	165	170	175	
tcc cac cac aca aat ggc cac atg ggt att ggc ggc ggt ggt ggt ggc				576
Ser His His Thr Asn Gly His Met Gly Ile Gly Gly Gly Gly Gly Gly				
	180	185	190	
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Leu Ser Val Asn Ile Asn Gly Pro Asn Ile Val Ser Asn Ala Gln Gln				
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Leu Asn Ser Leu Gln Ala Ser Gln Asn Gly Gln Val Ile His Ala Asn				
	210	215	220	
att ggc att cac agt atc atc agt aat gga tta aat cat cat cac cat				720
Ile Gly Ile His Ser Ile Ile Ser Asn Gly Leu Asn His His His His				
	225	230	235	240
cat cat atg aat aac agt agt atg atg cat cat aca ccc aga tct gaa				768
His His Met Asn Asn Ser Ser Met Met His His Thr Pro Arg Ser Glu				
	245	250	255	

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Ser Ala Asn Ser Ile Ser Ser Gly Arg Asp Asp Leu Ser Pro Ser Ser	
260 265 270	
agt ctt aat ggc ttc tca aca agc gat gct agt gat gtt aag aaa atc	864
Ser Leu Asn Gly Phe Ser Thr Ser Asp Ala Ser Asp Val Lys Lys Ile	
275 280 285	
aaa aaa ggt cct gcg ccc cgt tta caa gag gaa ctg tgt ctg gtg tgt	912
Lys Lys Gly Pro Ala Pro Arg Leu Gln Glu Glu Leu Cys Leu Val Cys	
290 295 300	
ggg gat cgg gcg tcc ggt tat cat tat aac gca ctc acc tgt gaa ggc	960
Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly	
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Cys Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Cys	
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Cys Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys	
340 345 350	
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Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro	
355 360 365	
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Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg Glu Lys	
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Lys Ala Gln Lys Glu Lys Asp Lys Ile Gln Thr Ser Val Cys Ala Thr	
385 390 395 400	
gaa att aaa aag gaa ata ctc gat tta atg aca tgt gaa ccg cca tca	1248
Glu Ile Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Ser	
405 410 415	
cat cca acg tgt ccg ctg tta cct gaa gac att ttg gct aaa tgt caa	1296
His Pro Thr Cys Pro Leu Leu Pro Glu Asp Ile Leu Ala Lys Cys Gln	
420 425 430	
gct cgt aat ata cct cct tta tcg tac aat caa ttg gca gtt ata tat	1344
Ala Arg Asn Ile Pro Pro Leu Ser Tyr Asn Gln Leu Ala Val Ile Tyr	

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435	440	445	
aaa tta ata tgg tat caa gat ggc tac gaa cag cca tcc gag gaa gat			1392
Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp			
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ctc aaa cgt ata atg agt tca ccc gat gaa aat gaa agt caa cac gat			1440
Leu Lys Arg Ile Met Ser Ser Pro Asp Glu Asn Glu Ser Gln His Asp			
465	470	475	480
gca tca ttt cgt cat ata aca gaa atc act ata cta aca gta caa tta			1488
Ala Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu			
485	490	495	
att gtg gaa ttt gcc aag ggt ttg cca gcg ttt acc aaa ata cca caa			1536
Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile Pro Gln			
500	505	510	
gag gat caa ata aca cta tta aag gcc tgc tca tca gaa gtt atg atg			1584
Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met			
515	520	525	
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Leu Arg Met Ala Arg Arg Tyr Asp His Asn Ser Asp Ser Ile Phe Phe			
530	535	540	
cc aat aat cga tcg tat acg cgt gac tct tat aaa atg gct ggc atg			1680
Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met			
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gct gat aat att gag gat ctg ctg cat ttc tgt cga caa atg tac tcg			1728
Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met Tyr Ser			
565	570	575	
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Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile			
580	585	590	
ttt tcc gat cgg ccg ggt ctc gaa gaa gcc gaa cta gtc gaa gcg ata			1824
Phe Ser Asp Arg Pro Gly Leu Glu Glu Ala Glu Leu Val Glu Ala Ile			
595	600	605	
caa agt tac tac atc gat aca ctc cgc att tac ata ctt aat cgc cat			1872
Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His			
610	615	620	

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 Cys Gly Asp Pro Met Ser Leu Val Phe Phe Ala Lys Leu Leu Ser Ile
 625 630 635 640

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 645 650 655

tcg ttg aaa ttg aaa aat cgc aaa ctg cca aaa ttc ctc gaa gag atc 2016
 Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile
 660 665 670

tgg gat gta cat gcc att cca ccc tca gtg cag tca cac ata cag gct 2064
 Trp Asp Val His Ala Ile Pro Pro Ser Val Gln Ser His Ile Gln Ala
 675 680 685

acc cag gcg gaa aag gcc gcc cag gaa gct cag gca aca aca tcg gcc 2112
 Thr Gln Ala Glu Lys Ala Ala Gln Glu Ala Gln Ala Thr Thr Ser Ala
 690 695 700

att tca gca gcc gcc acc tca tct tcc tcc ata aat acc tcg atg gca 2160
 Ile Ser Ala Ala Ala Thr Ser Ser Ser Ser Ile Asn Thr Ser Met Ala
 705 710 715 720

aca tca tcc tca tca tcg tta tcg cca tcg gcg gcc tca aca ccc aat 2208
 Thr Ser Ser Ser Ser Ser Leu Ser Pro Ser Ala Ala Ser Thr Pro Asn
 725 730 735

ggg ggt gcc gtc gat tat gtt ggc acc gat atg agt atg agt tta gta 2256
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caa tcg gat aat gca tag 2274
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<212> PRT

<213> Lucilia cuprina

<400> 2

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10

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 20 25 30

Val Leu Ser Ser Asp Ile Asn Met Ser Pro Ser Ser Leu Asp Ser Pro
 35 40 45

Val Tyr Gly Asp Gln Glu Met Trp Leu Cys Asn Asp Ser Ala Ser Tyr
 50 55 60

Asn Asn Ser His Gln His Ser Val Ile Thr Ser Leu Gln Gly Cys Thr
 65 70 75 80

Ser Ser Leu Pro Ala Gln Thr Thr Ile Ile Pro Leu Ser Ala Leu Pro
 85 90 95

Asn Ser Asn Asn Ala Ser Leu Asn Asn Gln Asn Gln Asn Tyr Gln Asn
 100 105 110

Gly Asn Ser Met Asn Thr Asn Leu Ser Val Asn Thr Asn Asn Ser Val
 115 120 125

Gly Gly Gly Gly Gly Gly Gly Gly Val Pro Gly Met Thr Ser Leu Asn
 130 135 140

Gly Leu Gly Gly Gly Gly Gly Gly Ser Gln Val Asn Asn His Asn His Ser
 145 150 155 160

His Asn His Leu His His Asn Ser Asn Ser Asn His Ser Asn Ser Ser
 165 170 175

Ser His His Thr Asn Gly His Met Gly Ile Gly Gly Gly Gly Gly Gly
 180 185 190

Leu Ser Val Asn Ile Asn Gly Pro Asn Ile Val Ser Asn Ala Gln Gln
 195 200 205

Leu Asn Ser Leu Gln Ala Ser Gln Asn Gly Gln Val Ile His Ala Asn
 210 215 220

Ile Gly Ile His Ser Ile Ile Ser Asn Gly Leu Asn His His His His
 225 230 235 240

His His Met Asn Asn Ser Ser Met Met His His Thr Pro Arg Ser Glu
 245 250 255

Ser Ala Asn Ser Ile Ser Ser Gly Arg Asp Asp Leu Ser Pro Ser Ser

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260	265	270
Ser Leu Asn Gly Phe Ser Thr Ser Asp Ala Ser Asp Val Lys Lys Ile		
275	280	285
Lys Lys Gly Pro Ala Pro Arg Leu Gln Glu Glu Leu Cys Leu Val Cys		
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Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly		
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Cys Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Cys		
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Cys Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys		
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Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro		
355	360	365
Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg Glu Lys		
370	375	380
Lys Ala Gln Lys Glu Lys Asp Lys Ile Gln Thr Ser Val Cys Ala Thr		
385	390	395 400
Glu Ile Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Ser		
405	410	415
His Pro Thr Cys Pro Leu Leu Pro Glu Asp Ile Leu Ala Lys Cys Gln		
420	425	430
Ala Arg Asn Ile Pro Pro Leu Ser Tyr Asn Gln Leu Ala Val Ile Tyr		
435	440	445
Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp		
450	455	460
Leu Lys Arg Ile Met Ser Ser Pro Asp Glu Asn Glu Ser Gln His Asp		
465	470	475 480
Ala Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu		
485	490	495
Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Il Pro Gln		

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500	505	510
Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met		
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Leu Arg Met Ala Arg Arg Tyr Asp His Asn Ser Asp Ser Ile Phe Phe		
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Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met		
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560		
Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met Tyr Ser		
565	570	575
Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile		
580	585	590
Phe Ser Asp Arg Pro Gly Leu Glu Glu Ala Glu Leu Val Glu Ala Ile		
595	600	605
Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His		
610	615	620
Cys Gly Asp Pro Met Ser Leu Val Phe Phe Ala Lys Leu Leu Ser Ile		
625	630	635
640		
Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn Ala Glu Met Cys Phe		
645	650	655
Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile		
660	665	670
Trp Asp Val His Ala Ile Pro Pro Ser Val Gln Ser His Ile Gln Ala		
675	680	685
Thr Gln Ala Glu Lys Ala Ala Gln Glu Ala Gln Ala Thr Thr Ser Ala		
690	695	700
Ile Ser Ala Ala Ala Thr Ser Ser Ser Ser Ile Asn Thr Ser Met Ala		
705	710	715
720		
Thr Ser Ser Ser Ser Ser Leu Ser Pro Ser Ala Ala Ser Thr Pro Asn		
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Gln Ser Asp Asn Ala
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<212> DNA

<213> *Lucilia cuprina*

<220>

<221> CDS

<222> (17)..(1417)

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Ala Pro Met Ser Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn

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gaa aat aat acg agt agt tat tcg ccc aaa cct gga agt cct aat cca 148

Glu Asn Asn Thr Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro

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ttt gcc atc gga ttg cag gca ata aat gca gtc gct gcc gcg aat gcc 196

Phe Ala Ile Gly Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala

45 50 55 60

aat aac caa aat caa atg ttg caa act acg cca cca caa cag cag cag 244

Asn Asn Gln Asn Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln

65 70 75

tat cca cca aat cac ccc ctt agt ggt tcg aaa cac ttg tgt tcc att 292

Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile

80 85 90

tgt gga gac cgc gcc agt gga aaa cat tat ggg gtc tac agt tgt gag 340

Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu

95 100 105

ggt tgt aaa ggg ttc ttc aaa cgt acc gta cgc aag gac ttg aca tat 388

Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr

110 115 120

- 10 -

gct tgt cgt gag gac aga aat tgc att ata gat aaa cga caa aga aat 436
 Ala Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn
 125 130 135 140

cgt tgc cag tat tgt cgt tat caa aag tgt tta gct tgt ggc atg aaa 484
 Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys
 145 150 155

cgc gaa gcg gtc caa gag gaa cga caa cgt ggt act cgt gct gct aac 532
 Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn
 160 165 170

gct aga gct gct ggt gct ggc ggt ggt gga gga ggt ggt ggt ggg gta 580
 Ala Arg Ala Ala Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val
 175 180 185

agc aat gtg gtt ggt gct ggc gga gaa gac ttt aaa ccc agc agt tca 628
 Ser Asn Val Val Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser
 190 195 200

tta cgt gat ctc act ata gaa cgc atc att gaa gcc gag caa aag gct 676
 Leu Arg Asp Leu Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala
 205 210 215 220

gaa tct ttg agc ggt gat aac gtg ttg ccc ttt ttg cgc gtt ggc aac 724
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 225 230 235

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cag atg gtt aac aaa caa ctc tac caa atg gtt gaa tat gca cgt cga 820
 Gln Met Val Asn Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg
 255 260 265

aca cca cat ttt aca cat ttg cag cgt gag gat cag ata cta ttg tta 868
 Thr Pro His Phe Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu
 270 275 280

aag gct ggc tgg aat gaa ctg cta att gca aat gtt gcc tgg tgc agt 916
 Lys Ala Gly Trp Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser
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 Ile Glu Ser Leu Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp

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Gly Ser Phe Gly Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe				
	320	325	330	
ctt aat cag aat ttc tcg tat cat cgc aat agt gct att aag gcc aat				1060
Leu Asn Gln Asn Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn				
	335	340	345	
gtt gtt tca att ttc gat cgt atc ctc tcg gag ttg agc atc aaa atg				1108
Val Val Ser Ile Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met				
	350	355	360	
aaa cgt ctt aac atc gat cgc tcg gag ttg tcg tgt ctg aag gca atc				1156
Lys Arg Leu Asn Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile				
	365	370	375	380
ata ctc ttc aat cca gac ata cgc ggt ctg aaa tgt cga gcc gac gtc				1204
Ile Leu Phe Asn Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val				
	385	390	395	
gag gta tgt cgt gaa aaa atc tat gcc tgt ctg gac gaa cac tgc cgc				1252
Glu Val Cys Arg Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg				
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Thr Glu His Pro Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg				
	415	420	425	
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Leu Pro Ala Leu Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe				
	430	435	440	
ttc ttc cgt tta ata ggc gaa aga gca ttg gag gaa tta att gct gag				1396
Phe Phe Arg Leu Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu				
	445	450	455	460
caa ttg gaa gct cct atc tgc taagaaattt gaaagttgta ctaaaataaa				1447
Gln Leu Glu Ala Pro Ile Cys				
	465			
acacaacatc caaaggactg tgttgtgaaa tgaatgatga tagagaaatt atttgttggt				1507
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<211> 467

<212> PRT

<213> *Lucilia cuprina*

<400> 4

Met Asp Asn Gly Glu Gln Asp Ala Gly Phe Arg Leu Ala Pro Met Ser

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5

10

15

Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn Glu Asn Asn Thr

20

25

30

Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe Ala Ile Gly

35

40

45

- 13 -

Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn Asn Gln Asn
 50 55 60

Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr Pro Pro Asn
 65 70 75 80

His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys Gly Asp Arg
 85 90 95

Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly
 100 105 110

Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala Cys Arg Glu
 115 120 125

Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr
 130 135 140

Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg Glu Ala Val
 145 150 155 160

Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala Arg Ala Ala
 165 170 175

Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val Ser Asn Val Val
 180 185 190

Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu Arg Asp Leu
 195 200 205

Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu Ser Leu Ser
 210 215 220

Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn Ser Met Val
 225 230 235 240

Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln Met Val Asn
 245 250 255

Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr Pro His Phe
 260 265 270

Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys Ala Gly Trp
 275 280 285

Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile Glu Ser Leu

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290	295	300
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305	310	315 320
Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu Asn Gln Asn		
	325	330 335
Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val Val Ser Ile		
	340	345 350
Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys Arg Leu Asn		
	355	360 365
Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile Leu Phe Asn		
	370	375 380
Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu Val Cys Arg		
	385	390 395 400
Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr Glu His Pro		
	405	410 415
Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu Pro Ala Leu		
	420	425 430
Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe Phe Arg Leu		
	435	440 445
Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln Leu Glu Ala		
	450	455 460

Pro Ile Cys
465

<210> 5

<211> 1596

<212> DNA

<213> Lucilia cuprina

<220>

<221> CDS

<222> (193)..(1593)

<400> 5

aattcggcac gagtcgacgc gaaaactttt cattcattag tcaaccagaa tatagacatt 60

- 15 -

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 tgtattaaat aaagattgtg tgtgacagaa acaaattagt gagatctctt gatacgggaa 180
 aatataatca aa atg gat aac ggc gag caa gat gct ggg ttc cga ttg gca 231
 Met Asp Asn Gly Glu Gln Asp Ala Gly Phe Arg Leu Ala
 1 5 10
 ccg atg tct ccg cag gag ata aag cca gac att tca cta ctc aat gaa 279
 Pro Met Ser Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn Glu
 15 20 25
 aat aat acg agt agt tat tcg ccc aaa cct gga agt cct aat cca ttt 327
 Asn Asn Thr Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe
 30 35 40 45
 gcc atc gga ttg cag gca ata aat gca gtc gct gcc gcg aat gcc aat 375
 Ala Ile Gly Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn
 50 55 60
 aac caa aat caa atg ttg caa act acg cca cca caa cag cag cag tat 423
 Asn Gln Asn Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr
 65 70 75
 cca cca aat cac ccc ctt agt ggt tcg aaa cac ttg tgt tcc att tgt 471
 Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys
 80 85 90
 gga gac cgc gcc agt gga aaa cat tat ggg gtc tac agt tgt gag ggt 519
 Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly
 95 100 105
 tgt aaa ggg ttc ttc aaa cgt acc gta cgc aag gac ttg aca tat gct 567
 Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala
 110 115 120 125
 tgt cgt gag gac aga aat tgc att ata gat aaa cga caa aga aat cgt 615
 Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg
 130 135 140
 tgc cag tat tgt cgt tat caa aag tgt tta gct tgt ggc atg aaa cgc 663
 Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg
 145 150 155
 gaa gcg gtc caa gag gaa cga caa cgt ggt act cgt gct gct aac gct 711

- 16 -

Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala	
160	170
aga gct gct ggt gct ggc ggt ggt gga gga ggt ggt ggt ggg gta agc	759
Arg Ala Ala Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val Ser	
175	185
aat gtg gtt ggt gct ggc gga gaa gac ttt aaa ccc agc agt tca tta	807
Asn Val Val Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu	
190	200
cgt gat ctc act ata gaa cgc atc att gaa gcc gag caa aag gct gaa	855
Arg Asp Leu Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu	
210	220
tct ttg agc ggt gat aac gtg ttg ccc ttt ttg cgc gtt ggc aac aat	903
Ser Leu Ser Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn	
225	235
tcc atg gta caa cac gac tac aaa ggc gcg gta tct cat ctc tgc cag	951
Ser Met Val Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln	
240	250
atg gtt aac aaa caa ctc tac caa atg gtt gaa tat gca cgt cga aca	999
Met Val Asn Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr	
255	265
cca cat ttt aca cat ttg cag cgt gag gat cag ata cta ttg tta aag	1047
Pro His Phe Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys	
270	285
gct ggc tgg aat gaa ctg cta att gca aat gtt gcc tgg tgc agt att	1095
Ala Gly Trp Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile	
290	300
gag tct ctg gat gcc gaa tat gcc tct cct ggt acg gta cat gac ggt	1143
Glu Ser Leu Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp Gly	
305	315
tct ttt ggt cgg cgt tca cca gtg cgt cag ccc caa caa ctc ttc ctt	1191
Ser Phe Gly Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu	
320	330
aat cag aat ttc tcg tat cat cgc aat agt gct att aag gcc aat gtt	1239
Asn Gln Asn Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val	
335	345

- 17 -

gtt tca att ttc gat cgt atc ctc tcg gag ttg agc atc aaa atg aaa 1287
 Val Ser Ile Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys
 350 355 360 365

cgt ctt aac atc gat cgc tcg gag ttg tcg tgt ctg aag gca atc ata 1335
 Arg Leu Asn Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile
 370 375 380

ctc ttc aat cca gac ata cgc ggt ctg aaa tgt cga gcc gac gtc gag 1383
 Leu Phe Asn Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu
 385 390 395

gta tgt cgt gaa aaa atc tat gcc tgt ctg gac gaa cac tgc cgc aca 1431
 Val Cys Arg Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr
 400 405 410

gaa cat cca ggt gat gat ggc cgc ttt gct cag cta cta cta agg ttg 1479
 Glu His Pro Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu
 415 420 425

ccc gca ttg cgt tcc atc agt ctc aaa tgt ctc gat cat ttg ttt ttc 1527
 Pro Ala Leu Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe
 430 435 440 445

ttc cgt tta ata ggc gaa aga gca ttg gag gaa tta att gct gag caa 1575
 Phe Arg Leu Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln
 450 455 460

ttg gaa gct cct atc tgc taa 1596
 Leu Glu Ala Pro Ile Cys
 465

<210> 16

<211> 467

<212> PRT

<213> Lucilia cuprina

<400> 6

Met Asp Asn Gly Glu Gln Asp Ala Gly Phe Arg Leu Ala Pro Met Ser
 1 5 10 15

Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn Glu Asn Asn Thr
 20 25 30

- 18 -

Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe Ala Ile Gly
 35 40 45

Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn Asn Gln Asn
 50 55 60

Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr Pro Pro Asn
 65 70 75 80

His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys Gly Asp Arg
 85 90 95

Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly
 100 105 110

Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala Cys Arg Glu
 115 120 125

Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr
 130 135 140

Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg Glu Ala Val
 145 150 155 160

Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala Arg Ala Ala
 165 170 175

Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val Ser Asn Val Val
 180 185 190

Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu Arg Asp Leu
 195 200 205

Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu Ser Leu Ser
 210 215 220

Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn Ser Met Val
 225 230 235 240

Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln Met Val Asn
 245 250 255

Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr Pro His Phe
 260 265 270

Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys Ala Gly Trp

- 19 -

275	280	285
Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile Glu Ser Leu		
290	295	300
Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp Gly Ser Phe Gly		
305	310	315 320
Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu Asn Gln Asn		
	325	330 335
Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val Val Ser Ile		
	340	345 350
Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys Arg Leu Asn		
	355	360 365
Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile Leu Phe Asn		
	370	375 380
Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu Val Cys Arg		
	385	390 395 400
Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr Glu His Pro		
	405	410 415
Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu Pro Ala Leu		
	420	425 430
Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe Phe Arg Leu		
	435	440 445
Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln Leu Glu Ala		
	450	455 460
Pro Ile Cys		
465		

<210> 7

<211> 1536

<212> DNA

<213> Lucilia cuprina

<220>

<221> CDS

- 20 -

<222> (133)..(1533)

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tgtattaaat aaagattgtg tgtgacagaa acaaattagt gagatctctt gatacgggaa 120

aatataatca aa atg gat aac ggc gag caa gat gct ggg ttc cga ttg gca 171

Met Asp Asn Gly Glu Gln Asp Ala Gly Phe Arg Leu Ala

1 5 10

ccg atg tct ccg cag gag ata aag cca gac att tca cta ctc aat gaa 219

Pro Met Ser Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn Glu

15 20 25

aat aat acg agt agt tat tcg ccc aaa cct gga agt cct aat cca ttt 267

Asn Asn Thr Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe

30 35 40 45

gcc atc gga ttg cag gca ata aat gca gtc gct gcc gcg aat gcc aat 315

Ala Ile Gly Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn

50 55 60

aac caa aat caa atg ttg caa act acg cca cca caa cag cag cag tat 363

Asn Gln Asn Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr

65 70 75

cca cca aat cac ccc ctt agt ggt tcg aaa cac ttg tgt tcc att tgt 411

Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys

80 85 90

gga gac cgc gcc agt gga aaa cat tat ggg gtc tac agt tgt gag ggt 459

Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly

95 100 105

tgt aaa ggg ttc ttc aaa cgt acc gta cgc aag gac ttg aca tat gct 507

Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala

110 115 120 125

tgt cgt gag gac aga aat tgc att ata gat aaa cga caa aga aat cgt 555

Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg

130 135 140

tgc cag tat tgt cgt tat caa aag tgt tta gct tgt ggc atg aaa cgc 603

Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg

145 150 155

- 21 -

gaa gcg gtc caa gag gaa cga caa cgt ggt act cgt gct gct aac gct 651
 Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala
 160 165 170

aga gct gct ggt gct ggc ggt ggt gga gga ggt ggt ggt ggg gta agc 699
 Arg Ala Ala Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val Ser
 175 180 185

aat gtg gtt ggt gct ggc gga gaa gac ttt aaa ccc agc agt tca tta 747
 Asn Val Val Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu
 190 195 200 205

cgt gat ctc act ata gaa cgc atc att gaa gcc gag caa aag gct gaa 795
 Arg Asp Leu Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu
 210 215 220

tct ttg agc ggt gat aac gtg ttg ccc ttt ttg cgc gtt ggc aac aat 843
 Ser Leu Ser Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn
 225 230 235

tcc atg gta caa cac gac tac aaa ggc gcg gta tct cat ctc tgc cag 891
 Ser Met Val Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln
 240 245 250

atg gtt aac aaa caa ctc tac caa atg gtt gaa tat gca cgt cga aca 939
 Met Val Asn Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr
 255 260 265

cca cat ttt aca cat ttg cag cgt gag gat cag ata cta ttg tta aag 987
 Pro His Phe Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys
 270 275 280 285

gct ggc tgg aat gaa ctg cta att gca aat gtt gcc tgg tgc agt att 1035
 Ala Gly Trp Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile
 290 295 300

gag tct ctg gat gcc gaa tat gcc tct cct ggt acg gta cat gac ggt 1083
 Glu Ser Leu Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp Gly
 305 310 315

tct ttt ggt cgg cgt tca cca gtg cgt cag ccc caa caa ctc ttc ctt 1131
 Ser Phe Gly Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu
 320 325 330

aat cag aat ttc tcg tat cat cgc aat agt gct att aag gcc aat gtt 1179

- 22 -

Asn Gln Asn Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val
 335 340 345

 gtt tca att ttc gat cgt atc ctc tcg gag ttg agc atc aaa atg aaa 1227
 Val Ser Ile Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys
 350 355 360 365

 cgt ctt aac atc gat cgc tcg gag ttg tcg tgt ctg aag gca atc ata 1275
 Arg Leu Asn Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile
 370 375 380

 ctc ttc aat cca gac ata cgc ggt ctg aaa tgt cga gcc gac gtc gag 1323
 Leu Phe Asn Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu
 385 390 395

 gta tgt cgt gaa aaa atc tat gcc tgt ctg gac gaa cac tgc cgc aca 1371
 Val Cys Arg Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr
 400 405 410

 gaa cat cca ggt gat gat ggc cgc ttt gct cag cta cta cta agg ttg 1419
 Glu His Pro Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu
 415 420 425

 ccc gca ttg cgt tcc atc agt ctc aaa tgt ctc gat cat ttg ttt ttc 1467
 Pro Ala Leu Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe
 430 435 440 445

 ttc cgt tta ata ggc gaa aga gca ttg gag gaa tta att gct gag caa 1515
 Phe Arg Leu Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln
 450 455 460

 ttg gaa gct cct atc tgc taa 1563
 Leu Glu Ala Pro Ile Cys
 465

 <210> 8
 <211> 467
 <212> PRT
 <213> *Lucilia cuprina*

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 Pro Gln Glu Ile Lys Pro Asp Ile Ser Leu Leu Asn Glu Asn Asn Thr

- 23 -

	20		25		30
Ser Ser Tyr Ser Pro Lys Pro Gly Ser Pro Asn Pro Phe Ala Ile Gly					
	35		40		45
Leu Gln Ala Ile Asn Ala Val Ala Ala Ala Asn Ala Asn Asn Gln Asn					
	50		55		60
Gln Met Leu Gln Thr Thr Pro Pro Gln Gln Gln Gln Tyr Pro Pro Asn					
	65		70		75 80
His Pro Leu Ser Gly Ser Lys His Leu Cys Ser Ile Cys Gly Asp Arg					
		85		90	95
Ala Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly					
	100		105		110
Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Ala Cys Arg Glu					
	115		120		125
Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr					
	130		135		140
Cys Arg Tyr Gln Lys Cys Leu Ala Cys Gly Met Lys Arg Glu Ala Val					
	145		150		155 160
Gln Glu Glu Arg Gln Arg Gly Thr Arg Ala Ala Asn Ala Arg Ala Ala					
		165		170	175
Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Val Ser Asn Val Val					
	180		185		190
Gly Ala Gly Gly Glu Asp Phe Lys Pro Ser Ser Ser Leu Arg Asp Leu					
	195		200		205
Thr Ile Glu Arg Ile Ile Glu Ala Glu Gln Lys Ala Glu Ser Leu Ser					
	210		215		220
Gly Asp Asn Val Leu Pro Phe Leu Arg Val Gly Asn Asn Ser Met Val					
	225		230		235 240
Gln His Asp Tyr Lys Gly Ala Val Ser His Leu Cys Gln Met Val Asn					
		245		250	255
Lys Gln Leu Tyr Gln Met Val Glu Tyr Ala Arg Arg Thr Pro His Phe					
	260		265		270

- 24 -

Thr His Leu Gln Arg Glu Asp Gln Ile Leu Leu Leu Lys Ala Gly Trp
 275 280 285

Asn Glu Leu Leu Ile Ala Asn Val Ala Trp Cys Ser Ile Glu Ser Leu
 290 295 300

Asp Ala Glu Tyr Ala Ser Pro Gly Thr Val His Asp Gly Ser Phe Gly
 305 310 315 320

Arg Arg Ser Pro Val Arg Gln Pro Gln Gln Leu Phe Leu Asn Gln Asn
 325 330 335

Phe Ser Tyr His Arg Asn Ser Ala Ile Lys Ala Asn Val Val Ser Ile
 340 345 350

Phe Asp Arg Ile Leu Ser Glu Leu Ser Ile Lys Met Lys Arg Leu Asn
 355 360 365

Ile Asp Arg Ser Glu Leu Ser Cys Leu Lys Ala Ile Ile Leu Phe Asn
 370 375 380

Pro Asp Ile Arg Gly Leu Lys Cys Arg Ala Asp Val Glu Val Cys Arg
 385 390 395 400

Glu Lys Ile Tyr Ala Cys Leu Asp Glu His Cys Arg Thr Glu His Pro
 405 410 415

Gly Asp Asp Gly Arg Phe Ala Gln Leu Leu Leu Arg Leu Pro Ala Leu
 420 425 430

Arg Ser Ile Ser Leu Lys Cys Leu Asp His Leu Phe Phe Phe Arg Leu
 435 440 445

Ile Gly Glu Arg Ala Leu Glu Glu Leu Ile Ala Glu Gln Leu Glu Ala
 450 455 460

Pro Ile Cys
 465

<210> 9

<211> 585

<212> DNA

<213> Myzus persicae

- 25 -

<220>

<221> CDS

<222> (1)..(585)

<400> 9

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gaa ttc ggc acg agc gcc att gtt aat gga ttt atc cgc acc att agt 48
Glu Phe Gly Thr Ser Ala Ile Val Asn Gly Phe Ile Arg Thr Ile Ser
  1             5             10             15

ttg atc ctt att ttt ctt ctt ctt ttt ctt tgg agg ttg ttg gcc ttc 96
Leu Ile Leu Ile Phe Leu Leu Leu Phe Leu Trp Arg Leu Leu Ala Phe
      20             25             30

cgg ttc ttg ttt ata tct gaa caa cca cct ccc gaa gag ctg tgc ctg 144
Arg Phe Leu Phe Ile Ser Glu Gln Pro Pro Pro Glu Glu Leu Cys Leu
      35             40             45

gtg tgt ggc gac cgg tcg tcc ggt tac cat tac aac gct ctc aca tgc 192
Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys
      50             55             60

gaa gga tgc aag ggg ttc ttc cgg agg agc atc acc aag aac gcc gtg 240
Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val
      65             70             75             80

tac cag tgc aag tac ggc aac aat tgc gaa atc gac atg tac atg agg 288
Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr Met Arg
      85             90             95

cgg aag tgc cag gag tgc cgg ctg aaa aaa tgc ctg acc gtc ggc atg 336
Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val Gly Met
      100             105             110

agg cct gaa tgt gtt gta cct gaa gtt caa tgc gca gta aaa aga aag 384
Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys Arg Lys
      115             120             125

gag aaa aaa gct caa cga gaa aaa gat aaa cca aat tct act aca gac 432
Glu Lys Lys Ala Gln Arg Glu Lys Asp Lys Pro Asn Ser Thr Thr Asp
      130             135             140

att tct cct gaa ata ata aaa ata gaa cct aca gag atg aag att gaa 480
Ile Ser Pro Glu Ile Ile Lys Ile Glu Pro Thr Glu Met Lys Ile Glu
      145             150             155             160

tgt ggt gaa cca atg ata atg ggc aca cct atg ccg act gta cct tac 528

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- 26 -

Cys Gly Glu Pro Met Ile Met Gly Thr Pro Met Pro Thr Val Pro Tyr
 165 170 175

gtg aaa cct ttg agt tct ctc gtg ccg aat tcg gca cga gtc acg ggt 576
 Val Lys Pro Leu Ser Ser Leu Val Pro Asn Ser Ala Arg Val Thr Gly
 180 185 190

tac aaa ttt 585
 Tyr Lys Phe
 195

<210> 10
 <211> 195
 <212> PRT
 <213> Myzus persicae

<400> 10
 Glu Phe Gly Thr Ser Ala Ile Val Asn Gly Phe Ile Arg Thr Ile Ser
 1 5 10 15

Leu Ile Leu Ile Phe Leu Leu Leu Phe Leu Trp Arg Leu Leu Ala Phe
 20 25 30

Arg Phe Leu Phe Ile Ser Glu Gln Pro Pro Pro Glu Glu Leu Cys Leu
 35 40 45

Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys
 50 55 60

Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val
 65 70 75 80

Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr Met Arg
 85 90 95

Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val Gly Met
 100 105 110

Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys Arg Lys
 115 120 125

Glu Lys Lys Ala Gln Arg Glu Lys Asp Lys Pro Asn Ser Thr Thr Asp
 130 135 140

Ile Ser Pro Glu Ile Ile Lys Ile Glu Pro Thr Glu Met Lys Ile Glu

- 27 -

145 150 155 160
 Cys Gly Glu Pro Met Ile Met Gly Thr Pro Met Pro Thr Val Pro Tyr
 165 170 175
 Val Lys Pro Leu Ser Ser Leu Val Pro Asn Ser Ala Arg Val Thr Gly
 180 185 190
 Tyr Lys Phe
 195

<210> 11
 <211> 208
 <212> DNA
 <213> Myzus persicae

<400> 11
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 ctgtgaaggc tgtaagggtt tctttcgacg gagtgttacc aaaaatgcgg tgtattgttg 120
 taaatttggg catgcctgcg aaatggacat gtatatgcga cgtaaattgc aggaatgtag 180
 gctgaaaaaa tgtttggtg tgggcatg 208

<210> 12
 <211> 436
 <212> DNA
 <213> Myzus persicae

<400> 12
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 agcacaaaaa gagaaggata aaatacagac cagtgtgtgt gcaacggaaa ttaaaaagga 120
 aatactcgat ttaatgacat gtgaaccgcc atcacatcca acgtgtccgc tgttacctga 180
 agacattttg gctaaatgtc aagctcgtaa tatacctcct ttatcgta atcaattggc 240
 agttatatat aaattaatat ggtatcaaga tggctacgaa cagccatccg aggaagatct 300
 caaacgtata atgagttcac ccgatgaaaa tgaaagtcaa cacgatgcat catttcgtca 360
 tataacagaa atcactatac taacagtaca attaattggt gaatgtgcca aaggcttagg 420

- 28 -

gtaccgagct cgaatt

436

<210> 13

<211> 1797

<212> DNA

<213> Myzus persicae

<220>

<221> CDS

<222> (1)..(1797)

<400> 13

atg atg gac cag aaa tgt gac gtc ggc ggt ggt ggt gtc gct gct gcc	48
Met Met Asp Gln Lys Cys Asp Val Gly Gly Gly Gly Val Ala Ala Ala	
1 5 10 15	

gcc gcc ggt atc ggt ggc ggc ggt gtc ggc ggc ctc atg tcg tac aac	96
Ala Ala Gly Ile Gly Gly Gly Gly Val Gly Gly Leu Met Ser Tyr Asn	
20 25 30	

cgt ggc cgt ggc ggc acc gag gtc atc atc aaa ccc cgt agt cct gcc	144
Arg Gly Arg Gly Gly Thr Glu Val Ile Ile Lys Pro Arg Ser Pro Ala	
35 40 45	

gtg gtg cag gtg gcc acc ggt ggc agt tac cac ggc ctg ccg gcg gcc	192
Val Val Gln Val Ala Thr Gly Gly Ser Tyr His Gly Leu Pro Ala Ala	
50 55 60	

tcc gac gcc gtc atc gtg cgc agc ccg cca ggc ggc cac ttg ccc ggg	240
Ser Asp Ala Val Ile Val Arg Ser Pro Pro Gly Gly His Leu Pro Gly	
65 70 75 80	

ccg cag cag caa gtg ccg ccg tcc cgc aac ggc tgt tcc acc ctg ttt	288
Pro Gln Gln Gln Val Pro Pro Ser Arg Asn Gly Cys Ser Thr Leu Phe	
85 90 95	

agc gac atc gct ggc gtc aag cga ctc agg ccc gac gat tgg ttg gcc	336
Ser Asp Ile Ala Gly Val Lys Arg Leu Arg Pro Asp Asp Trp Leu Ala	
100 105 110	

gtc aac tcg ccg ccc gcc tct tcg ccc ggc acg tcg cac ata tcc tac	384
Val Asn Ser Pro Pro Ala Ser Ser Pro Gly Thr Ser His Ile Ser Tyr	
115 120 125	

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aca gtc ata tcg aac ggc ggc ggc ggt ggc ggc ggt ggc ggc ggt ggt	432
Thr Val Ile Ser Asn Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly	
130 135 140	
tac aac acg tct cca atg tcg acc aac agc tac gac ccg tac agt ccg	480
Tyr Asn Thr Ser Pro Met Ser Thr Asn Ser Tyr Asp Pro Tyr Ser Pro	
145 150 155 160	
atg agt gga aaa atc gtc aaa gaa gag ttg tct ccg cca aac agc ctg	528
Met Ser Gly Lys Ile Val Lys Glu Glu Leu Ser Pro Pro Asn Ser Leu	
165 170 175	
tcg gga gtc agc agc cat tcg gat ggg ttg aag aag aag aaa ctc aac	576
Ser Gly Val Ser Ser His Ser Asp Gly Leu Lys Lys Lys Lys Leu Asn	
180 185 190	
cac acg ccc tcg acc ggt gtc gtc aac acc tcg gca tcg ggc ccc ggg	624
His Thr Pro Ser Thr Gly Val Val Asn Thr Ser Ala Ser Gly Pro Gly	
195 200 205	
ggg ggc gtt ggt ggc aat gtg ctg aac aac cga cct ccc gaa gag ctg	672
Gly Gly Val Gly Gly Asn Val Leu Asn Asn Arg Pro Pro Glu Glu Leu	
210 215 220	
tgc ctg gtg tgt ggc gac cgg tcg tcc ggt tac cat tac aac gct ctc	720
Cys Leu Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu	
225 230 235 240	
aca tgc gaa gga tgc aag ggg ttc ttc cgg agg agc atc acc aag aac	768
Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn	
245 250 255	
gcc gtg tac cag tgc aag tac ggc aac aat tgc gaa atc gac atg tac	816
Ala Val Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr	
260 265 270	
atg agg cgg aag tgc cag gag tgc cgg ctg aaa aaa tgc ctg acc gtc	864
Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val	
275 280 285	
ggc atg agg cct gaa tgt gtt gta cct gaa gtt caa tgc gca gta aaa	912
Gly Met Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys	
290 295 300	
aga aag gag aaa aaa gct caa cga gaa aaa gat aaa cca aat tct act	960

Arg	Lys	Glu	Lys	Lys	Ala	Gln	Arg	Glu	Lys	Asp	Lys	Pro	Asn	Ser	Thr	
305						310				315					320	
aca	gac	att	tct	cct	gaa	ata	ata	aaa	ata	gaa	cct	aca	gag	atg	aag	1008
Thr	Asp	Ile	Ser	Pro	Glu	Ile	Ile	Lys	Ile	Glu	Pro	Thr	Glu	Met	Lys	
				325					330					335		
att	gaa	tgt	ggt	gaa	cca	atg	ata	atg	ggc	aca	cct	atg	ccg	act	gta	1056
Ile	Glu	Cys	Gly	Glu	Pro	Met	Ile	Met	Gly	Thr	Pro	Met	Pro	Thr	Val	
			340						345				350			
cct	tac	gtg	aaa	cct	ttg	agt	tct	gaa	caa	aaa	gaa	ctg	atc	cac	cga	1104
Pro	Tyr	Val	Lys	Pro	Leu	Ser	Ser	Glu	Gln	Lys	Glu	Leu	Ile	His	Arg	
		355					360					365				
ctt	gtc	tat	ttc	cag	gat	caa	tat	gaa	gct	cct	agt	gaa	aaa	gac	atg	1152
Leu	Val	Tyr	Phe	Gln	Asp	Gln	Tyr	Glu	Ala	Pro	Ser	Glu	Lys	Asp	Met	
		370				375					380					
aaa	cgt	tta	aca	ata	aat	aat	caa	aat	atg	gat	gaa	tat	gat	gaa	gaa	1200
Lys	Arg	Leu	Thr	Ile	Asn	Asn	Gln	Asn	Met	Asp	Glu	Tyr	Asp	Glu	Glu	
385					390				395						400	
aaa	caa	agt	gac	acc	aca	tat	cga	atc	atc	act	gag	atg	aca	ata	ctc	1248
Lys	Gln	Ser	Asp	Thr	Thr	Tyr	Arg	Ile	Ile	Thr	Glu	Met	Thr	Ile	Leu	
			405						410					415		
aca	gtt	caa	ctg	att	gtt	gag	ttt	gcc	aaa	cga	tta	cca	ggt	ttc	gat	1296
Thr	Val	Gln	Leu	Ile	Val	Glu	Phe	Ala	Lys	Arg	Leu	Pro	Gly	Phe	Asp	
			420				425					430				
aaa	ctt	gta	aga	gaa	gat	caa	atc	act	tta	ctc	aag	gct	tgc	tca	agt	1344
Lys	Leu	Val	Arg	Glu	Asp	Gln	Ile	Thr	Leu	Leu	Lys	Ala	Cys	Ser	Ser	
		435				440					445					
gaa	gct	atg	atg	ttc	agg	gta	gca	agg	aag	tat	gac	atc	acc	act	gac	1392
Glu	Ala	Met	Met	Phe	Arg	Val	Ala	Arg	Lys	Tyr	Asp	Ile	Thr	Thr	Asp	
		450				455					460					
tca	ata	gtg	ttt	gct	aac	aac	cag	cca	ttt	tca	gct	gat	tca	tat	aac	1440
Ser	Ile	Val	Phe	Ala	Asn	Asn	Gln	Pro	Phe	Ser	Ala	Asp	Ser	Tyr	Asn	
465					470				475						480	
aaa	gct	gga	ttg	gga	gat	gcc	att	gaa	aac	caa	ctg	tca	ttc	agt	cgg	1488
Lys	Ala	Gly	Leu	Gly	Asp	Ala	Ile	Glu	Asn	Gln	Leu	Ser	Phe	Ser	Arg	
				485					490				495			

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ttt atg tac aat atg aag gtg gat aac gca gaa tat gcc tta ttg acc 1536
 Phe Met Tyr Asn Met Lys Val Asp Asn Ala Glu Tyr Ala Leu Leu Thr
 500 505 510

gcc atc gtc ata ttt tcg agt agg cca aat tta cta gat ggt tgg aaa 1584
 Ala Ile Val Ile Phe Ser Ser Arg Pro Asn Leu Leu Asp Gly Trp Lys
 515 520 525

gtg gag aaa atc caa gaa atc tac cta gag tcc tta aaa gct tat gta 1632
 Val Glu Lys Ile Gln Glu Ile Tyr Leu Glu Ser Leu Lys Ala Tyr Val
 530 535 540

gat aat cga gac cgt gac aca gca act gta cga tat gcg cga ctt ctc 1680
 Asp Asn Arg Asp Arg Asp Thr Ala Thr Val Arg Tyr Ala Arg Leu Leu
 545 550 555 560

tca gta ctt aca gaa ttg cgc aca tta ggc aat gaa aac tct gag cta 1728
 Ser Val Leu Thr Glu Leu Arg Thr Leu Gly Asn Glu Asn Ser Glu Leu
 565 570 575

tgt atg aca ctg aaa ctg aaa aac aga gta gta ccc cca ttc ttg gcc 1776
 Cys Met Thr Leu Lys Leu Lys Asn Arg Val Val Pro Pro Phe Leu Ala
 580 585 590

gaa ata tgg gat gtc atg cca 1797
 Glu Ile Trp Asp Val Met Pro
 595

<210> 14

<211> 599

<212> PRT

<213> Myzus persicae

<400> 14

Met Met Asp Gln Lys Cys Asp Val Gly Gly Gly Gly Val Ala Ala Ala
 1 5 10 15

Ala Ala Gly Ile Gly Gly Gly Gly Val Gly Gly Leu Met Ser Tyr Asn
 20 25 30

Arg Gly Arg Gly Gly Thr Glu Val Ile Ile Lys Pro Arg Ser Pro Ala
 35 40 45

Val Val Gln Val Ala Thr Gly Gly Ser Tyr His Gly Leu Pro Ala Ala

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50	55	60
Ser Asp Ala Val Ile Val Arg Ser Pro Pro Gly Gly His Leu Pro Gly		
65	70	75 80
Pro Gln Gln Gln Val Pro Pro Ser Arg Asn Gly Cys Ser Thr Leu Phe		
	85	90 95
Ser Asp Ile Ala Gly Val Lys Arg Leu Arg Pro Asp Asp Trp Leu Ala		
	100	105 110
Val Asn Ser Pro Pro Ala Ser Ser Pro Gly Thr Ser His Ile Ser Tyr		
	115	120 125
Thr Val Ile Ser Asn Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly		
	130	135 140
Tyr Asn Thr Ser Pro Met Ser Thr Asn Ser Tyr Asp Pro Tyr Ser Pro		
	145	150 155 160
Met Ser Gly Lys Ile Val Lys Glu Glu Leu Ser Pro Pro Asn Ser Leu		
	165	170 175
Ser Gly Val Ser Ser His Ser Asp Gly Leu Lys Lys Lys Lys Leu Asn		
	180	185 190
His Thr Pro Ser Thr Gly Val Val Asn Thr Ser Ala Ser Gly Pro Gly		
	195	200 205
Gly Gly Val Gly Gly Asn Val Leu Asn Asn Arg Pro Pro Glu Glu Leu		
	210	215 220
Cys Leu Val Cys Gly Asp Arg Ser Ser Gly Tyr His Tyr Asn Ala Leu		
	225	230 235 240
Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn		
	245	250 255
Ala Val Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met Tyr		
	260	265 270
Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Thr Val		
	275	280 285
Gly Met Arg Pro Glu Cys Val Val Pro Glu Val Gln Cys Ala Val Lys		
	290	295 300

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Arg	Lys	Glu	Lys	Lys	Ala	Gln	Arg	Glu	Lys	Asp	Lys	Pro	Asn	Ser	Thr	305	310	315	320
Thr	Asp	Ile	Ser	Pro	Glu	Ile	Ile	Lys	Ile	Glu	Pro	Thr	Glu	Met	Lys	325	330	335	
Ile	Glu	Cys	Gly	Glu	Pro	Met	Ile	Met	Gly	Thr	Pro	Met	Pro	Thr	Val	340	345	350	
Pro	Tyr	Val	Lys	Pro	Leu	Ser	Ser	Glu	Gln	Lys	Glu	Leu	Ile	His	Arg	355	360	365	
Leu	Val	Tyr	Phe	Gln	Asp	Gln	Tyr	Glu	Ala	Pro	Ser	Glu	Lys	Asp	Met	370	375	380	
Lys	Arg	Leu	Thr	Ile	Asn	Asn	Gln	Asn	Met	Asp	Glu	Tyr	Asp	Glu	Glu	385	390	395	400
Lys	Gln	Ser	Asp	Thr	Thr	Tyr	Arg	Ile	Ile	Thr	Glu	Met	Thr	Ile	Leu	405	410	415	
Thr	Val	Gln	Leu	Ile	Val	Glu	Phe	Ala	Lys	Arg	Leu	Pro	Gly	Phe	Asp	420	425	430	
Lys	Leu	Val	Arg	Glu	Asp	Gln	Ile	Thr	Leu	Leu	Lys	Ala	Cys	Ser	Ser	435	440	445	
Glu	Ala	Met	Met	Phe	Arg	Val	Ala	Arg	Lys	Tyr	Asp	Ile	Thr	Thr	Asp	450	455	460	
Ser	Ile	Val	Phe	Ala	Asn	Asn	Gln	Pro	Phe	Ser	Ala	Asp	Ser	Tyr	Asn	465	470	475	480
Lys	Ala	Gly	Leu	Gly	Asp	Ala	Ile	Glu	Asn	Gln	Leu	Ser	Phe	Ser	Arg	485	490	495	
Phe	Met	Tyr	Asn	Met	Lys	Val	Asp	Asn	Ala	Glu	Tyr	Ala	Leu	Leu	Thr	500	505	510	
Ala	Ile	Val	Ile	Phe	Ser	Ser	Arg	Pro	Asn	Leu	Leu	Asp	Gly	Trp	Lys	515	520	525	
Val	Glu	Lys	Ile	Gln	Glu	Ile	Tyr	Leu	Glu	Ser	Leu	Lys	Ala	Tyr	Val	530	535	540	

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Asp Asn Arg Asp Arg Asp Thr Ala Thr Val Arg Tyr Ala Arg Leu Leu
 545 550 555 560

Ser Val Leu Thr Glu Leu Arg Thr Leu Gly Asn Glu Asn Ser Glu Leu
 565 570 575

Cys Met Thr Leu Lys Leu Lys Asn Arg Val Val Pro Pro Phe Leu Ala
 580 585 590

Glu Ile Trp Asp Val Met Pro
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<210> 15

<211> 1131

<212> DNA

<213> Myzus persicae

<220>

<221> CDS

<222> (1)..(1131)

<400> 15

atg tat tcc aac tcg tac acc atg tat tca agt gac aga tta tac agc 48
 Met Tyr Ser Asn Ser Tyr Thr Met Tyr Ser Ser Asp Arg Leu Tyr Ser
 1 5 10 15

gtc gat cgg aac agt atg atg aat aat tct tgc aac gta caa gac tct 96
 Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn Val Gln Asp Ser
 20 25 30

ccg aat tac ccg ccc aac cat cca ctc agc ggt tcg aaa cat ctg tgc 144
 Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys
 35 40 45

tcc ata tgc ggc gat cgc gcc agt gga aaa cat tac gga gtc tac agc 192
 Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser
 50 55 60

tgc gag ggg tgc aaa ggg ttc ttc aaa cgc aca gtg agg aaa aat ttg 240
 Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asn Leu
 65 70 75 80

tca tac gcg tgt cgc gaa gaa aac aaa tgc atc atc gac aag cgc caa 288
 Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile Asp Lys Arg Gln
 85 90 95

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cga aat cgg tgc caa tac tgc agg tat caa aaa tgt ttg acc atg ggc	336
Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Thr Met Gly	
100 105 110	
atg aaa aga gaa gct gtg cag gaa gaa aga caa cgt aca aaa gaa cga	384
Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Thr Lys Glu Arg	
115 120 125	
gat cat aat aac atc gaa gtt gaa ccc acg agc agt tct aat act gat	432
Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser Ser Asn Thr Asp	
130 135 140	
atg cca gtg gaa ctc ata tta agg gct gag aat aaa gct gat gct ata	480
Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys Ala Asp Ala Ile	
145 150 155 160	
aag act gaa caa cag tat ata gag caa cga cat cct caa cat act gtt	528
Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro Gln His Thr Val	
165 170 175	
ggg gct att tgt caa gca act gac aag cag tta ata caa ctt gtt gaa	576
Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile Gln Leu Val Glu	
180 185 190	
tgg gcc aag cat ata ccg cat ttt aaa aat tta cct cta ggc gat caa	624
Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro Leu Gly Asp Gln	
195 200 205	
gtt tta tta ttg aga gct ggt tgg aat gag ttg atg att gca gca ttt	672
Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met Ile Ala Ala Phe	
210 215 220	
tcc cat aga tca atc agt gta aaa gat ggt ata gtc tta gct act gga	720
Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val Leu Ala Thr Gly	
225 230 235 240	
ctt act gtt gac aga gat tca gct cac caa gct ggt gtt gaa gct ata	768
Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly Val Glu Ala Ile	
245 250 255	
ttt gat cgt gta ctc act gaa ctc gtt gct aaa atg aga gat atg ggt	816
Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met Arg Asp Met Gly	
260 265 270	
atg gat aga aca gag ctt ggc tgt ttg cgt act att att ctt ttt aat	864
Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile Ile Leu Phe Asn	

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275	280	285	
cca ggt tca aaa ggt ttg cag tct gtg aat gaa gtg caa gta ctg cgt			912
Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val Gln Val Leu Arg			
290	295	300	
gat aag gtt tat gtt gcg tta gaa gaa tat tgt cgt aca aca cat cca			960
Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg Thr Thr His Pro			
305	310	315	320
gaa gaa cct gga cga ttt gct aaa cta ctt ctt cgg ctt cct tca tta			1008
Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ser Leu			
	325	330	335
cgt tca att gga tta aaa tgt ctg gaa cat tta ttc ttt tat aaa ctt			1056
Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Tyr Lys Leu			
	340	345	350
att ggc gat tcc cca att gat aca ttt tta atg gaa gtt ctc gaa tca			1104
Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu Val Leu Glu Ser			
	355	360	365
tct tca cat gac gtt caa gta gct aca			1131
Ser Ser His Asp Val Gln Val Ala Thr			
	370	375	
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Met Tyr Ser Asn Ser Tyr Thr Met Tyr Ser Ser Asp Arg Leu Tyr Ser			
1	5	10	15
Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn Val Gln Asp Ser			
	20	25	30
Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys			
	35	40	45
Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser			
	50	55	60
Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asn Leu			

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65		70		75		80
Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile Asp Lys Arg Gln						
	85		90		95	
Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Thr Met Gly						
	100		105		110	
Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Thr Lys Glu Arg						
	115		120		125	
Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser Ser Asn Thr Asp						
	130		135		140	
Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys Ala Asp Ala Ile						
145		150		155		160
Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro Gln His Thr Val						
	165		170		175	
Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile Gln Leu Val Glu						
	180		185		190	
Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro Leu Gly Asp Gln						
	195		200		205	
Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met Ile Ala Ala Phe						
	210		215		220	
Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val Leu Ala Thr Gly						
225		230		235		240
Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly Val Glu Ala Ile						
	245		250		255	
Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met Arg Asp Met Gly						
	260		265		270	
Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile Ile Leu Phe Asn						
	275		280		285	
Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val Gln Val Leu Arg						
	290		295		300	
Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg Thr Thr His Pro						
305		310		315		320

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Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ser Leu
 325 330 335

Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Tyr Lys Leu
 340 345 350

Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu Val Leu Glu Ser
 355 360 365

Ser Ser His Asp Val Gln Val Ala Thr
 370 375

<210> 17

<211> 1131

<212> DNA

<213> Myzus persicae

<220>

<221> CDS

<222> (1)..(1131)

<400> 17

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 Met Tyr Ser Asn Ser Tyr Thr Met Tyr Ser Ser Asp Arg Leu Tyr Ser
 1 5 10 15

gtc gat cgg aac agt atg atg aat aat tct tgc aac gta caa gac tct 96
 Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn Val Gln Asp Ser
 20 25 30

ccg aat tac ccg ccc aac cat cca ctc agc ggt tcg aaa cat ctg tgc 144
 Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys
 35 40 45

tcc ata tgc ggc gat cgc gcc agt gga aaa cat tac gga gtc tac agc 192
 Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser
 50 55 60

tgc gag ggg tgc aaa ggg ttc ttc aaa cgc aca gtg agg aaa aat ttg 240
 Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asn Leu
 65 70 75 80

tca tac gcg tgt cgc gaa gaa aac aaa tgc atc atc gac aag cgc caa 288
 Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile Asp Lys Arg Gln
 85 90 95

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cga aat cgg tgc caa tac tgc agg tat caa aaa tgt ttg acc atg ggc	336
Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Thr Met Gly	
100 105 110	
atg aaa aga gaa gct gtg cag gaa gaa aga caa cgt aca aaa gaa cga	384
Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Thr Lys Glu Arg	
115 120 125	
gat cat aat aac atc gaa gtt gaa ccc acg agc agt tct aat act gat	432
Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser Ser Asn Thr Asp	
130 135 140	
atg cca gtg gaa ctc ata tta agg gct gag aat aaa gct gat gct ata	480
Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys Ala Asp Ala Ile	
145 150 155 160	
aag act gaa caa cag tat ata gag caa cga cat cct caa cat act gtt	528
Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro Gln His Thr Val	
165 170 175	
ggt gct att tgt caa gca act gac aag cag tta ata caa ctt gtt gaa	576
Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile Gln Leu Val Glu	
180 185 190	
tgg gcc aag cat ata ccg cat ttt aaa aat tta cct cta ggc gat caa	624
Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro Leu Gly Asp Gln	
195 200 205	
gtt tta tta ttg aga gct ggt tgg aat gag ttg atg att gca gca ttt	672
Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met Ile Ala Ala Phe	
210 215 220	
tcc cat aga tca atc agt gta aaa gat ggt ata gtc tta gct act gga	720
Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val Leu Ala Thr Gly	
225 230 235 240	
ctt act gtt gac aga gat tca gct cac caa gct ggt gtt gaa gct ata	768
Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly Val Glu Ala Ile	
245 250 255	
ttt gat cgt gta ctc act gaa ctc gtt gct aaa atg aga gat atg ggt	816
Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met Arg Asp Met Gly	
260 265 270	
atg gat aga aca gag ctt ggc tgt ttg cgt act att att ctt ttt aat	864
Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile Ile Leu Phe Asn	

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275	280	285	
cca ggt tca aaa ggt ttg cag tct gtg aat gaa gtg gaa gta ctg cgt			912
Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val Glu Val Leu Arg			
290	295	300	
gat aag gtt tat gtt gcg tta gaa gaa tat tgt cgt aca aca cat cca			960
Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg Thr Thr His Pro			
305	310	315	320
gaa gaa cct gga cga ttt gct aaa cta ctt ctt cgg ctt cct tca tta			1008
Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ser Leu			
325	330	335	
cgt tca att gga tta aaa tgt ctg gaa cat tta ttc ttt tat aaa ctt			1056
Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Tyr Lys Leu			
340	345	350	
att ggc gat tcc cca att gat aca ttt tta atg gaa gtt ctc gaa tca			1104
Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu Val Leu Glu Ser			
355	360	365	
tct tca cat gac gtt caa gta gct aca			1131
Ser Ser His Asp Val Gln Val Ala Thr			
370	375		
<210> 18			
<211> 377			
<212> PRT			
<213> Myzus persicae			
<400> 18			
Met Tyr Ser Asn Ser Tyr Thr Met Tyr Ser Ser Asp Arg Leu Tyr Ser			
1	5	10	15
Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn Val Gln Asp Ser			
20	25	30	
Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser Lys His Leu Cys			
35	40	45	
Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr Gly Val Tyr Ser			
50	55	60	
Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asn Leu			

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65		70		75		80
Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile Asp Lys Arg Gln						
	85		90		95	
Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Thr Met Gly						
	100		105		110	
Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Thr Lys Glu Arg						
	115		120		125	
Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser Ser Asn Thr Asp						
	130		135		140	
Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys Ala Asp Ala Ile						
145		150		155		160
Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro Gln His Thr Val						
	165		170		175	
Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile Gln Leu Val Glu						
	180		185		190	
Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro Leu Gly Asp Gln						
	195		200		205	
Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met Ile Ala Ala Phe						
	210		215		220	
Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val Leu Ala Thr Gly						
225		230		235		240
Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly Val Glu Ala Ile						
	245		250		255	
Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met Arg Asp Met Gly						
	260		265		270	
Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile Ile Leu Phe Asn						
	275		280		285	
Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val Glu Val Leu Arg						
	290		295		300	
Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg Thr Thr His Pro						
305		310		315		320

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Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ser Leu
 325 330 335

Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Tyr Lys Leu
 340 345 350

Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu Val Leu Glu Ser
 355 360 365

Ser Ser His Asp Val Gln Val Ala Thr
 370 375

<210> 19

<211> 1242

<212> DNA

<213> Myzus persicae

<220>

<221> CDS

<222> (1)..(1239)

<400> 19

atg gac ggc acc gaa cga gga tta aga ttg gac aat aat ctg tct ctg 48
 Met Asp Gly Thr Glu Arg Gly Leu Arg Leu Asp Asn Asn Leu Ser Leu
 1 5 10 15

agt tca atg ggt cct cag tcg ccc cta gac ctc aaa cct gac acg gca 96
 Ser Ser Met Gly Pro Gln Ser Pro Leu Asp Leu Lys Pro Asp Thr Ala
 20 25 30

act tta atg gtt aat ttc agt cct ccg gga gct cct cta agt cct gca 144
 Thr Leu Met Val Asn Phe Ser Pro Pro Gly Ala Pro Leu Ser Pro Ala
 35 40 45

gga tta tac agc gtc gat cgg aac agt atg atg aat aat tct tgc aac 192
 Gly Leu Tyr Ser Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn
 50 55 60

gta caa gac tct ccg aat tac ccg ccc aac cat cca ctc agc ggt tcg 240
 Val Gln Asp Ser Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser
 65 70 75 80

aaa cat ctg tgc tcc ata tgc ggc gat cgc gcc agt gga aaa cat tac 288
 Lys His Leu Cys S r Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr

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85	90	95	
gga gtc tac agc tgc gag ggg tgc aaa ggg ttc ttc aaa cgc aca gtg			336
Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val			
100	105	110	
agg aaa aat ttg tca tac gcg tgt cgc gaa gaa aac aaa tgc atc atc			384
Arg Lys Asn Leu Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile			
115	120	125	
gac aag cgc caa cga aat cgg tgc caa tac tgc agg tat caa aaa tgt			432
Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys			
130	135	140	
ttg acc atg ggc atg aaa aga gaa gct gtg cag gaa gaa aga caa cgt			480
Leu Thr Met Gly Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg			
145	150	155	160
aca aaa gaa cga gat cat aat aac atc gaa gtt gaa ccc acg agc agt			528
Thr Lys Glu Arg Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser			
165	170	175	
tct aat act gat atg cca gtg gaa ctc ata tta agg gct gag aat aaa			576
Ser Asn Thr Asp Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys			
180	185	190	
gct gat gct ata aag act gaa caa cag tat ata gag caa cga cat cct			624
Ala Asp Ala Ile Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro			
195	200	205	
caa cat act gtt ggt gct att tgt caa gca act gac aag cag tta ata			672
Gln His Thr Val Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile			
210	215	220	
caa ctt gtt gaa tgg gcc aag cat ata ccg cat ttt aaa aat tta cct			720
Gln Leu Val Glu Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro			
225	230	235	240
cta ggc gat caa gtt tta tta ttg aga gct ggt tgg aat gag ttg atg			768
Leu Gly Asp Gln Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met			
245	250	255	
att gca gca ttt tcc cat aga tca atc agt gta aaa gat ggt ata gtc			816
Ile Ala Ala Phe Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val			
260	265	270	

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tta gct act gga ctt act gtt gac aga gat tca gct cac caa gct ggt 864
 Leu Ala Thr Gly Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly
 275 280 285

gtt gaa gct ata ttt gat cgt gta ctc act gaa ctc gtt gct aaa atg 912
 Val Glu Ala Ile Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met
 290 295 300

aga gat atg ggt atg gat aga aca gag ctt ggc tgt ttg cgt act att 960
 Arg Asp Met Gly Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile
 305 310 315 320

att ctt ttt aat cca ggt tca aaa ggt ttg cag tct gtg aat gaa gtg 1008
 Ile Leu Phe Asn Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val
 325 330 335

gaa gta ctg cgt gat aag gtt tat gtt gcg tta gaa gaa tat tgt cgt 1056
 Glu Val Leu Arg Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg
 340 345 350

aca aca cat cca gaa gaa cct gga cga ttt gct aaa cta ctt ctt cgg 1104
 Thr Thr His Pro Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg
 355 360 365

ctt cct tca tta cgt tca att gga tta aaa tgt ctg gaa cat tta ttc 1152
 Leu Pro Ser Leu Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe
 370 375 380

ttt tat aaa ctt att ggc gat tcc cca att gat aca ttt tta atg gaa 1200
 Phe Tyr Lys Leu Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu
 385 390 395 400

gtt ctc gaa tca tct tca cat gac gtt caa gta gct aca tga 1242
 Val Leu Glu Ser Ser Ser His Asp Val Gln Val Ala Thr
 405 410

<210> 20

<211> 413

<212> PRT

<213> Myzus persicae

<400> 20

Met Asp Gly Thr Glu Arg Gly Leu Arg Leu Asp Asn Asn Leu Ser Leu

1

5

10

15

- 45 -

Ser Ser Met Gly Pro Gln Ser Pro Leu Asp Leu Lys Pro Asp Thr Ala
 20 25 30

Thr Leu Met Val Asn Phe Ser Pro Pro Gly Ala Pro Leu Ser Pro Ala
 35 40 45

Gly Leu Tyr Ser Val Asp Arg Asn Ser Met Met Asn Asn Ser Cys Asn
 50 55 60

Val Gln Asp Ser Pro Asn Tyr Pro Pro Asn His Pro Leu Ser Gly Ser
 65 70 75 80

Lys His Leu Cys Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr
 85 90 95

Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val
 100 105 110

Arg Lys Asn Leu Ser Tyr Ala Cys Arg Glu Glu Asn Lys Cys Ile Ile
 115 120 125

Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys
 130 135 140

Leu Thr Met Gly Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg
 145 150 155 160

Thr Lys Glu Arg Asp His Asn Asn Ile Glu Val Glu Pro Thr Ser Ser
 165 170 175

Ser Asn Thr Asp Met Pro Val Glu Leu Ile Leu Arg Ala Glu Asn Lys
 180 185 190

Ala Asp Ala Ile Lys Thr Glu Gln Gln Tyr Ile Glu Gln Arg His Pro
 195 200 205

Gln His Thr Val Gly Ala Ile Cys Gln Ala Thr Asp Lys Gln Leu Ile
 210 215 220

Gln Leu Val Glu Trp Ala Lys His Ile Pro His Phe Lys Asn Leu Pro
 225 230 235 240

Leu Gly Asp Gln Val Leu Leu Leu Arg Ala Gly Trp Asn Glu Leu Met
 245 250 255

Ile Ala Ala Phe Ser His Arg Ser Ile Ser Val Lys Asp Gly Ile Val

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260	265	270
Leu Ala Thr Gly Leu Thr Val Asp Arg Asp Ser Ala His Gln Ala Gly		
275	280	285
Val Glu Ala Ile Phe Asp Arg Val Leu Thr Glu Leu Val Ala Lys Met		
290	295	300
Arg Asp Met Gly Met Asp Arg Thr Glu Leu Gly Cys Leu Arg Thr Ile		
305	310	315 320
Ile Leu Phe Asn Pro Gly Ser Lys Gly Leu Gln Ser Val Asn Glu Val		
325	330	335
Glu Val Leu Arg Asp Lys Val Tyr Val Ala Leu Glu Glu Tyr Cys Arg		
340	345	350
Thr Thr His Pro Glu Glu Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg		
355	360	365
Leu Pro Ser Leu Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe		
370	375	380
Phe Tyr Lys Leu Ile Gly Asp Ser Pro Ile Asp Thr Phe Leu Met Glu		
385	390	395 400
Val Leu Glu Ser Ser Ser His Asp Val Gln Val Ala Thr		
405	410	

<210> 21
 <211> 150
 <212> DNA
 <213> Lucilia cuprina

<220>
 <221> CDS
 <222> (9)..(134)

<400> 21
 aattctgc gaa gga tgc aag gga ttc ttc aaa cgt acc gta cgc aag gac 50
 Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp
 1 5 10

ttg aca tat gct tgt cgt gag gac aga aat tgc att ata gat aaa cga 98
 Leu Thr Tyr Ala Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg
 15 20 25 30

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caa aga aat cgt tgc cag tat tgt cgc tac caa aag tgatcgatac cgtcga 150
Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys
35 40

<210> 22

<211> 42

<212> PRT

<213> Lucilia cuprina

<400> 22

Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr
1 5 10 15

Tyr Ala Cys Arg Glu Asp Arg Asn Cys Ile Ile Asp Lys Arg Gln Arg
20 25 30

Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys
35 40

<210> 23

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 23

cggaattccg cctcnggnta ycaytayaay gc 32

<210> 24

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 24

cgcggatccr cactcctgac actttcgyct ca 32

<210> 25

<211> 23

<212> DNA

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 25

gcctcggggt atcactataa cgc

23

<210> 26

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 26

gcactcctga cactttcgtc tca

23

<210> 27

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 27

tcgtccggtt accattacaa cgc

23

<210> 28

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 28

tagaccttg gcraaytcna caat

24

<210> 29

<211> 37

- 49 -

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 29

tcgacatata acttcgctgc agatgcatcc gagctct

37

<210> 30

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 30

ctagagctcg gatgcatctg cagcgaagtt atatg

35

<210> 31

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 31

tccagaaccg cggatagata tctgggatcc tc

32

<210> 32

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 32

ggagaggatc ccagatatct atccgcggtt ct

32

<210> 33

- 50 -

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 33

gatccatggg acaccatcac catcaccata ggccttccga acgcggtgaa ttccgaca 58

<210> 34

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 34

agcttgctcg aattcaccgc gttcggaagg cctatggtga tggatgatgt gtcccatg 58

<210> 35

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 35

ccgggatctc gagatggact acaaggacga cgatgacaag cc 42

<210> 36

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide

<400> 36

catgggcttg tcacgtcgt ccttgtagtc catctcgaga tc 42

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<210> 37
<211> 91
<212> DNA
<213> Bemisia tabaci

<220>
<221> CDS
<222> (2)..(91)

<400> 37
c aag agg aca gtt cgg aaa gac ttg tct tat gct tgc cgt gaa gaa aag 49
Lys Arg Thr Val Arg Lys Asp Leu Ser Tyr Ala Cys Arg Glu Glu Lys
1 5 10 15

aac tgt ctg att gat aag agg caa agg aat cga tgt caa tat 91
Asn Cys Leu Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr
20 25 30

<210> 38
<211> 30
<212> PRT
<213> Bemisia tabaci

<400> 38
Lys Arg Thr Val Arg Lys Asp Leu Ser Tyr Ala Cys Arg Glu Glu Lys
1 5 10 15

Asn Cys Leu Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr
20 25 30

<210> 39
<211> 1491
<212> DNA
<213> Bemisia tabaci

<220>
<221> CDS
<222> (1)..(1488)

<400> 39
atg agt gaa aaa gaa aat gaa gca aaa aag att aaa ctt gat tcc tct 48
Met Ser Glu Lys Glu Asn Glu Ala Lys Lys Ile Lys Leu Asp Ser Ser
1 5 10 15

ggc att ggt ata ata gaa tca tcc gaa tct aac gga gct atc atg ttg 96

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Gly Ile Gly Ile Ile Glu Ser Ser Glu Ser Asn Gly Ala Ile Met Leu	
20 25 30	
aac gat tct aca tct aat tgt cca tca cct tca cca tct cgt gtg gtt	144
Asn Asp Ser Thr Ser Asn Cys Pro Ser Pro Ser Pro Ser Arg Val Val	
35 40 45	
cat ata cgg aat gtt ccc ata gaa gct act gaa aat gat gtt ctc agt	192
His Ile Arg Asn Val Pro Ile Glu Ala Thr Glu Asn Asp Val Leu Ser	
50 55 60	
att ggt act cca ttt ggt gag atc acc aat gtt ctt ttg gtg aga gga	240
Ile Gly Thr Pro Phe Gly Glu Ile Thr Asn Val Leu Leu Val Arg Gly	
65 70 75 80	
aaa ggt caa gcc ttc tta gag ttt gtt gac tca ttc tct gct caa caa	288
Lys Gly Gln Ala Phe Leu Glu Phe Val Asp Ser Phe Ser Ala Gln Gln	
85 90 95	
atg gtt aac tgt tgg tct gat cct aac aac tca ccg atg caa ctt tgt	336
Met Val Asn Cys Trp Ser Asp Pro Asn Asn Ser Pro Met Gln Leu Cys	
100 105 110	
att cgg gga aga caa gta tgt gtc cag ttt tca aag cac aaa gaa ctt	384
Ile Arg Gly Arg Gln Val Cys Val Gln Phe Ser Lys His Lys Glu Leu	
115 120 125	
aaa aaa tct ctt ctt gga aca aat gct ggt tca gac agc agc tat caa	432
Lys Lys Ser Leu Leu Gly Thr Asn Ala Gly Ser Asp Ser Ser Tyr Gln	
130 135 140	
agt aca tct cct caa aat agt aga cat ata agc aac ggt gat tct gtt	480
Ser Thr Ser Pro Gln Asn Ser Arg His Ile Ser Asn Gly Asp Ser Val	
145 150 155 160	
gga gca agt tcc gtt ttc tct aat cca aat cat cct tta agc gga tca	528
Gly Ala Ser Ser Val Phe Ser Asn Pro Asn His Pro Leu Ser Gly Ser	
165 170 175	
aaa cat ctc tgt tct att tgt ggt gat cga gcc tct ggg aaa cat tat	576
Lys His Leu Cys Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr	
180 185 190	
ggt gtt tac agt tgt gaa gga tgt aaa gga ttt ttt aaa agg act gtt	624
Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val	
195 200 205	

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cgt aaa gat ttg tct tat gct tgt cgg gaa gaa cga gat tgt atc ata	672
Arg Lys Asp Leu Ser Tyr Ala Cys Arg Glu Glu Arg Asp Cys Ile Ile	
210 215 220	
gac aga cga caa agg aat agg tgt caa tac tgt aga tat cag aaa tgt	720
Asp Arg Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys	
225 230 235 240	
ctc gct atg gga atg aaa aga gaa gcc gtg caa gaa gaa aga caa agg	768
Leu Ala Met Gly Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg	
245 250 255	
aat aaa gaa aaa agt gaa aac gag gtt gaa agt aca agt aac tca cag	816
Asn Lys Glu Lys Ser Glu Asn Glu Val Glu Ser Thr Ser Asn Ser Gln	
260 265 270	
aat gat atg cct atc gaa aga ata ctg gaa gct gaa tta cga gtg gaa	864
Asn Asp Met Pro Ile Glu Arg Ile Leu Glu Ala Glu Leu Arg Val Glu	
275 280 285	
cct aag aat gaa gac ata gat tct cga gat ccc gtt agt gat atc tgt	912
Pro Lys Asn Glu Asp Ile Asp Ser Arg Asp Pro Val Ser Asp Ile Cys	
290 295 300	
caa gcg gca gat cga caa ctt tac caa tta att gaa tgg gct aag cat	960
Gln Ala Ala Asp Arg Gln Leu Tyr Gln Leu Ile Glu Trp Ala Lys His	
305 310 315 320	
att cct cat ttc acc gag tta ccc gtt gaa gat caa gtt att tta ctt	1008
Ile Pro His Phe Thr Glu Leu Pro Val Glu Asp Gln Val Ile Leu Leu	
325 330 335	
aaa tca gga tgg aat gag ctt ctc att gca ggc ttt tct cat cgt tca	1056
Lys Ser Gly Trp Asn Glu Leu Leu Ile Ala Gly Phe Ser His Arg Ser	
340 345 350	
atg tca gtt aaa gat ggt atc atg tta gcc act ggt ttg gtt gtt cat	1104
Met Ser Val Lys Asp Gly Ile Met Leu Ala Thr Gly Leu Val Val His	
355 360 365	
aga aac tgt gct cat caa gcg ggt gta ggt gct att ttt gat cgc gtg	1152
Arg Asn Cys Ala His Gln Ala Gly Val Gly Ala Ile Phe Asp Arg Val	
370 375 380	
tta act gaa tta gtg gct aaa atg aga gaa atg aaa atg gac aaa act	1200

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Leu Thr Glu Leu Val Ala Lys Met Arg Glu Met Lys Met Asp Lys Thr
 385 390 395 400

 gaa ctt ggt tgc tta cga tct att gta tta ttt aat ccc gaa gct aaa 1248
 Glu Leu Gly Cys Leu Arg Ser Ile Val Leu Phe Asn Pro Glu Ala Lys
 405 410 415

 gga ctc aaa tca aca caa caa gtt gaa aat tta cgt gaa aag gtt tac 1296
 Gly Leu Lys Ser Thr Gln Gln Val Glu Asn Leu Arg Glu Lys Val Tyr
 420 425 430

 gca atc ctg gaa gag tat tgt aga caa act tat cct gat caa tct ggc 1344
 Ala Ile Leu Glu Glu Tyr Cys Arg Gln Thr Tyr Pro Asp Gln Ser Gly
 435 440 445

 cgt ttt gct aaa tta ctt ctt cgt cta cct gcc tta cgg tca att ggt 1392
 Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly
 450 455 460

 tta aag tgt ttg gaa cat tta ttt ttc ttc aaa ttg gtt gga aac aca 1440
 Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys Leu Val Gly Asn Thr
 465 470 475 480

 tct att gac agt ttc ttg ttg tcc atg tta gaa tct aat tca gac tca 1488
 Ser Ile Asp Ser Phe Leu Leu Ser Met Leu Glu Ser Asn Ser Asp Ser
 485 490 495

 tag 1491

 <210> 40
 <211> 496
 <212> PRT
 <213> Bemisia tabaci

 <400> 40
 Met Ser Glu Lys Glu Asn Glu Ala Lys Lys Ile Lys Leu Asp Ser Ser
 1 5 10 15

 Gly Ile Gly Ile Ile Glu Ser Ser Glu Ser Asn Gly Ala Ile Met Leu
 20 25 30

 Asn Asp Ser Thr Ser Asn Cys Pro Ser Pro Ser Pro Ser Arg Val Val
 35 40 45

 His Ile Arg Asn Val Pro Ile Glu Ala Thr Glu Asn Asp Val Leu Ser
 50 55 60

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Ile Gly Thr Pro Phe Gly Glu Ile Thr Asn Val Leu Leu Val Arg Gly
65 70 75 80

Lys Gly Gln Ala Phe Leu Glu Phe Val Asp Ser Phe Ser Ala Gln Gln
85 90 95

Met Val Asn Cys Trp Ser Asp Pro Asn Asn Ser Pro Met Gln Leu Cys
100 105 110

Ile Arg Gly Arg Gln Val Cys Val Gln Phe Ser Lys His Lys Glu Leu
115 120 125

Lys Lys Ser Leu Leu Gly Thr Asn Ala Gly Ser Asp Ser Ser Tyr Gln
130 135 140

Ser Thr Ser Pro Gln Asn Ser Arg His Ile Ser Asn Gly Asp Ser Val
145 150 155 160

Gly Ala Ser Ser Val Phe Ser Asn Pro Asn His Pro Leu Ser Gly Ser
165 170 175

Lys His Leu Cys Ser Ile Cys Gly Asp Arg Ala Ser Gly Lys His Tyr
180 185 190

Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val
195 200 205

Arg Lys Asp Leu Ser Tyr Ala Cys Arg Glu Glu Arg Asp Cys Ile Ile
210 215 220

Asp Arg Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys
225 230 235 240

Leu Ala Met Gly Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg
245 250 255

Asn Lys Glu Lys Ser Glu Asn Glu Val Glu Ser Thr Ser Asn Ser Gln
260 265 270

Asn Asp Met Pro Ile Glu Arg Ile Leu Glu Ala Glu Leu Arg Val Glu
275 280 285

Pro Lys Asn Glu Asp Ile Asp Ser Arg Asp Pro Val Ser Asp Ile Cys
290 295 300

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Gln Ala Ala Asp Arg Gln Leu Tyr Gln Leu Ile Glu Trp Ala Lys His
305 310 315 320

Ile Pro His Phe Thr Glu Leu Pro Val Glu Asp Gln Val Ile Leu Leu
325 330 335

Lys Ser Gly Trp Asn Glu Leu Leu Ile Ala Gly Phe Ser His Arg Ser
340 345 350

Met Ser Val Lys Asp Gly Ile Met Leu Ala Thr Gly Leu Val Val His
355 360 365

Arg Asn Cys Ala His Gln Ala Gly Val Gly Ala Ile Phe Asp Arg Val
370 375 380

Leu Thr Glu Leu Val Ala Lys Met Arg Glu Met Lys Met Asp Lys Thr
385 390 395 400

Glu Leu Gly Cys Leu Arg Ser Ile Val Leu Phe Asn Pro Glu Ala Lys
405 410 415

Gly Leu Lys Ser Thr Gln Gln Val Glu Asn Leu Arg Glu Lys Val Tyr
420 425 430

Ala Ile Leu Glu Glu Tyr Cys Arg Gln Thr Tyr Pro Asp Gln Ser Gly
435 440 445

Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly
450 455 460

Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys Leu Val Gly Asn Thr
465 470 475 480

Ser Ile Asp Ser Phe Leu Leu Ser Met Leu Glu Ser Asn Ser Asp Ser
485 490 495

<210> 41

<211> 101

<212> DNA

<213> Bemisia tabaci

<220>

<221> CDS

<222> (2)..(100)

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<400> 41

c ctc acc tgc gaa ggc tgc aag ggc ttc ttc cgt cgg agc atc acc aag 49

Leu Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys

1 5 10 15

aat gcc gtc tac cag tgt aaa tat gga aat aat tgt gaa atc gac atg 97

Asn Ala Val Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met

20 25 30

tac a 101

Tyr

<210> 42

<211> 33

<212> PRT

<213> Bemisia tabaci

<400> 42

Leu Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys

1 5 10 15

Asn Ala Val Tyr Gln Cys Lys Tyr Gly Asn Asn Cys Glu Ile Asp Met

20 25 30

Tyr